

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A low-residual-solvent excipient which has residual solvent of less than 3000 ppm;

wherein said low-residual-solvent excipient possesses a water absorbing property which is characterized by the presence of a methoxy alkylcarboxyl ($-\text{CH}_2\text{-O-RCOO}^-\text{A}^+$) group in said excipient;

wherein R is a lower alkyl group having 1-4 carbon atoms; ~~and~~ wherein A^+ is Na^+ or K^+ ; and

said low-residual solvent excipient being produced by mixing an excipient possessing said water absorbing property with a solvent/water solution which contains no more than 40% by volume of water to form a solvent/water/excipient mixture; filtering said solvent/water/excipient mixture to obtain a water-containing low-residual-solvent excipient; and drying said water-containing low-residual-solvent excipient to obtain said low-residual solvent excipient.

Claim 2 (original): The low-residual-solvent excipient according to claim 1, wherein said low-residual-solvent excipient is a polysaccharide based material.

Claim 3 (previously amended): The low-residual-solvent excipient according to claim 2, wherein said polysaccharide based material is one selected from the group consisting of starch based material, cellulose based material, chitin based material, sugar, Arabic gum, and Guar gum.

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Claim 4 (previously Amended): The low-residual-solvent excipient according to claim 3, wherein said starch based material is one selected from the group consisting of starch, amylose, amylopectin, gelatin, and sodium starch glycolate.

Claim 5 (original): The low-residual-solvent excipient according to claim 3, wherein said cellulose based material is one selected from the group consisting of cellulose, microcrystalline cellulose, hydroxypropyl cellulose, carboxymethyl cellulose, croscarmellose, and hydroxypropyl-methyl-cellulose.

Claim 6 (currently amended): A The low-residual-solvent excipient according to claim 3 which has residual solvent of less than 3000 ppm;

wherein said excipient possesses water absorbing property which is characterized by the presence of a methoxy alkylcarboxyl ($-\text{CH}_2\text{-O-RCOO}^-\text{A}^+$) group in said excipient;

wherein R is a lower alkyl group having 1-4 carbon atoms;
wherein A^+ is Na^+ or K^+ , wherein said excipient is chitin-based material is chitosan.

Claim 7 (original): The low-residual-solvent excipient according to claim 1, wherein said residual solvent is at least one selected from the group consisting of methanol, ethanol, isopropanol, and acetone.

Claim 8 (previously amended): The low-residual-solvent excipient according to claim 2, wherein said methoxy alkylcarboxyl ($-\text{CH}_2\text{-O-RCOO}^-\text{A}^+$) group of said excipient is obtained by reacting a carbinol group ($-\text{CH}_2\text{OH}$) of said excipient with a water absorbing radical.

Claim 9 (previously amended): The low-residual-solvent excipient according to claim 8, wherein said water absorbing radical is a $-\text{R-COO}^-\text{A}^+$ radical, wherein R is a lower alkyl group having 1-4 carbon atoms; wherein A^+ is Na^+ or K^+ .

Claim 10 (original): The low-residual-solvent excipient according to claim 9, wherein said $(-R-COO^-A^+)$ radical is an acetate sodium radical $(-CH_2COONa)$.

Claim 11 (cancelled)

Claim 12 (currently amended): The low-residual-solvent excipient according to claim 1, wherein said low-residual-solvent excipient is used in at least one selected from the group consisting of ~~pharmaceuticals~~, fish foods, plant growth regulators, pesticides and herbicides.

Claim 13 (currently amended): A method for producing ~~the a~~ low-residual-solvent excipient ~~according to claim 1~~, comprising:

mixing a solvent/water solution with an ~~said low-residual-solvent~~ excipient possessing a water absorbing property which is characterized by the presence of a methoxy alkylcarboxyl $(-CH_2-O-RCOO^-A^+)$ group to form a solvent/water/excipient mixture; wherein said solvent/water solution contains no more than 40% by volume of water;

~~removing said solvent by~~ filtering said solvent/water/excipient mixture to obtain a water-containing low-residual-solvent excipient; and

drying said ~~retained~~ water-containing low-residual-solvent excipient to produce said low-residual-solvent excipient.

Claim 14 (original): The method according to claim 13, wherein said solvent/water solution is one selected from the group consisting of isopropanol/water, acetone/water, and methanol/water.

Claim 15 (original) The method according to claim 14; wherein said isopropanol/water solution having 75-95% by volume of isopropanol and 5-25% by volume of water.

Claim 16 (original): The method according to claim 14, wherein said acetone/water solution has 65-95% by volume of acetone and 5-35% by volume of water.

Claim 17 (original): The method according to claim 14, wherein said methanol/water solution has 60 -85% by volume of methanol and 15-40% by volume of water.

Claim 18 (cancelled).

Claim 19 (currently amended): The method according to claim 13, wherein said solvent/water solution and said ~~low-residual-solvent~~ excipient is mixed at about 20 to 30°C and with high-speed agitation.

Claim 20 (original): The method according to claim 19, wherein said high speed agitation is at least at 90 rpm.

Claims 21-29 (cancelled)

Claim 30 (currently amended): The method according to claim 13 ~~28~~, wherein said excipient is a polysaccharide based material;

wherein said methoxy alkylcarboxyl group of said excipient is obtained by attaching a (-RCOO⁻A⁺) radical to said excipient; wherein A⁺ is Na⁺ or K⁺; wherein R is a lower alkyl group having 1-4 carbon atoms; and

wherein said (-RCOO⁻A⁺) radical is attached to a carbinol (-CH₂OH) group of said ~~low residual-solvent~~ excipient to form a said (-CH₂-O-R-COO⁻A⁺) linkage.

Claim 31 (currently amended): The method according to claim 30, wherein said (-CH₂-O-R-COO⁻A⁺) linkage is produced by mixing said ~~polysaccharide-based-material~~ excipient with methanol, sodium hydroxide, and a (Cl-R-COO⁻A⁺) at about 100°C for about 10 hours.

Claim 32 (previously added): The method according to claim 31, wherein said (Cl-R-COO⁻A⁺) is a monochloroacetate sodium (Cl-CH₂-COONa).

Claim 33 (currently amended): A low-residual-solvent excipient which has residual solvent of less than 3000 ppm and possesses water absorbing property which is characterized by the presence of a methoxy alkylcarboxyl (-CH₂-O-RCOO⁻A⁺) group in said excipient; wherein R is a lower alkyl group having 1-4 carbon atoms; wherein A⁺ is Na⁺ or K⁺; and wherein said low-residual-solvent excipient is a gelatinized starch.

Claim 34 (previously added): The low-residual-solvent excipient which has residual solvent according to claim 33, wherein said gelatinized starch is starch 1500 from corn starch.